

**ABSTRACT OF THE DISCLOSURE**

A processing system provides both hardware instruction translation (68) and software instruction interpretation (84) mechanisms for supporting high level program instructions.

- 5 All of the program instructions are supplied to the hardware translation unit (68) which forwards those instructions it does not itself support to the software interpretation mechanism (84). By routing all program instructions through the hardware translation unit (68), the hardware translation unit (86) is able to monitor when it is appropriate and safe to trigger a scheduling operation for controlling multitasking or multithreaded operations. The
- 10 scheduling operations may be triggered based upon a count of executed program instructions or by using a timer based scheduling approach with the timer signal being qualified by a signal indicating an appropriate point within the cycle of execution of program instructions.

[Figure 10]